

[0077] In another embodiment, the tactile sensor may comprise a foldable probe directing forward with respect to the front wheel and the probe can retract when contacting an obstacle in front of it. Therefore, the tactile sensor will not influence the running mechanism to cross the obstacle.

[0078] In an embodiment, optionally, the running mechanism may further comprise a rear obstacle sensor directing backward with respect to the rear wheel. With respect to the front obstacle sensor (i.e. the “obstacle sensor directing forward with respect to the front wheel”) as described above, the rear obstacle sensor itself may have the same or similar inner structure and connections with other components. Therefore, when the running mechanism is running in an opposite direction (i.e. running backwards), the rear obstacle sensor can be used to detect any possible obstacle(s) on the cable along the running path, with the same/similar function as that of the front obstacle sensor. Thus, the related description for the rear obstacle sensor may refer to the detailed explanation for the front obstacle sensor, and will not be described repeatedly herein.

[0079] In an embodiment, optionally, the braking device may comprise: a manipulating member (such as a manipulating lever for example) disposed in the hanging seat. When the manipulating member is activated, the braking block below the lower surface of the cable is driven to move upwards to press against the lower surface of the cable for braking operation.

[0080] In this case, the front wheel or rear wheel running on the cable presses on the cable from above while the braking block below the cable presses on the cable from below, thereby sandwiching the cable between the front/rear wheel and the braking block and thus enabling a better braking operation with a higher friction force between the cable and the wheel or the braking block. Such braking by means of increased friction force will not act directly on the wheels to cause a risk of the wheel separating and falling out of the cable, thus enabling a more stable and safer braking.

[0081] In an embodiment, optionally, the manipulating lever may be replaced by a braking pulling handle connected by a steel wire. The braking pulling handle in an embodiment may be disposed in the hanging seat to facilitate operation by the operator(s).

[0082] In an embodiment, optionally, the manipulating lever of the braking device may comprise a manual lever and/or a pedal plate or lever.

[0083] In an embodiment, optionally, the braking block may be disposed below only the rear wheel (not for the front wheel) such that the cable is positioned between the rear wheel and the braking block, for a safer braking operation.

[0084] In another embodiment, optionally, a rear braking block may be disposed below the rear wheel (such that the cable is positioned between the rear wheel and the rear braking block) and a front braking block may be disposed below the front wheel (such that the cable is positioned between the front wheel and the front braking block).

[0085] In an embodiment, optionally, a first portion of the braking lever where the braking block is provided (i.e. the portion of the braking lever from the point for mounting the braking block to the point to be rotatably mounted to the body, or the pivot connection as described hereinafter) is heavier than (or, in an aspect of size, larger or longer than) a second portion of the braking lever where the manipulating lever is connected. Therefore, the first portion of the braking lever can normally maintain inclined downwards due to the

gravity effect such that the braking block can maintain detached from the cable above it. When the manipulating lever is activated, the second portion of the braking lever is pulled downwards while the first portion of the braking lever is inclined upwards accordingly, thus driving the braking block to move upwards to press against the lower surface of the cable for braking.

[0086] In an embodiment, optionally, a spring may be disposed between a manipulating end of the braking lever for connection to the manipulating lever and the body or the respective hanging arm. The spring maintains a tension state to pull the manipulating end of the braking lever upwards such that the braking block at the other side of the braking lever can maintain detached from the cable above it. When the manipulating lever is activated to pull the manipulating end of the braking lever downwards against the spring force, the portion of the braking lever where the braking block is provided will incline upwards accordingly (similar to the action of leverage effect), thus driving the braking block to move upwards to press against the lower surface of the cable for braking.

[0087] Preferably, in any of the embodiments of the present invention, the braking device comprises:

[0088] a braking lever comprising a pivot connection rotatably mounted to the body, as well as an inner end and an outer end positioned at opposite sides of the pivot connection;

[0089] a braking block mounted on the inner end of the braking lever and positioned below a portion of the cable where the front wheel or rear wheel is positioned;

[0090] a manipulating member connected to the outer end of the braking lever;

[0091] a spring connected between the braking lever and the body, with a connection point of the spring to the braking lever being apart from the pivot connection of the braking lever;

[0092] wherein when the manipulating member is activated, the outer end of the braking lever is rotated downwards and the braking block on the inner end of the braking lever is driven to move upwards to press against the lower surface of the cable for braking operation; and wherein when the manipulating member is deactivated, the braking lever is rotated in an opposite direction due to a restoring force of the spring such that the braking block is detached from the cable.

[0093] In this case, the electric vehicle comprising the braking device can run along the cable(s) by the front and rear wheels rolling on the cable(s) and the operator(s) in the hanging seat below the cables can perform the braking operation to the electric vehicle by controlling to the manipulating member of the braking device. The cable is restricted within the annular groove on the circumferential rim of the front/rear wheel to prevent the front/rear wheel from separating and falling from the cable. Also, the cable is positioned between the wheel (i.e. the front wheel or the rear wheel) above it and the braking block below it, wherein the braking block is aligned with the front wheel or the rear wheel. In this case, the front wheel or rear wheel running on the cable (above the cable) presses on the cable from above while the braking block below the cable presses on the cable from below when the manipulating member is activated, thereby sandwiching the cable between the front/rear wheel and the braking block and thus holding the cable therebetween. This enables a better braking operation with a higher